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**TRANSMITTAL
FORM**

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Total Number of Pages in This Submission

Application Number 10/724,992

Filing Date December 1, 2003

First Named Inventor Mark Robert Stelter

Art Unit 3725

Examiner Name Mark Rosenbaum

Attorney Docket Number 2-5169-052

ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Remarks	

Fee Transmittal - Form PTO/SB/17 - 1 sheet;
Appeal Brief - 16 pages, duly executed, in triplicate; and
CHECK in the amount of \$500 for the Appeal Brief fee.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	STURM & FIX LLP		
Signature			
Printed name	Michael O. Sturm		
Date	04/22/2005	Reg. No.	26,078

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name	Deborah M. Potts	Date	04/22/2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APR 25 2005

PTO/SB/17 (12-04v2)

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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**
For FY 2005☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500

Complete if Known

Application Number	10/724,992
Filing Date	December 1, 2003
First Named Inventor	Mark Robert Stelter
Examiner Name	Mark Rosenbaum
Art Unit	3725
Attorney Docket No.	2-5169-052

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☒ Deposit Account Deposit Account Number: 08-1650 Deposit Account Name: STURM & FIX LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17☒ Credit any overpayments

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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
- 20 or HP =	x	=				

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
- 3 or HP =	x	=	

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Appeal Brief

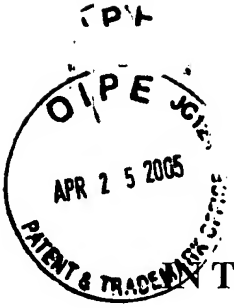
500

SUBMITTED BY

Signature	<u>Michael O. Sturm</u>	Registration No. 26,078 (Attorney/Agent)	Telephone 515-288-9589
Name (Print/Type)	Michael O. Sturm		Date 04/22/2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Attorney Docket No. 2-5169-052

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: James L. O'Halloran

Ser. No. 10/724,992

Filed: December 01, 2003

Examiner: Mark Rosenbaum

For: IMPROVED BRUSH CHIPPER AND
METHODS OF OPERATING SAME

Group Art: 3725

APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is in response to the Office Communication of March 09, 2005

Real Party in Interest

Vermeer Manufacturing Company
P.O. Box 200
Pella, IA 50219

Related Appeals and Interferences

None

Status of Claims

- 45. Rejected. On appeal
- 46. Objected to. On appeal
- 47. Rejected. On appeal
- 48. Objected to. On appeal
- 49. Rejected. On appeal
- 50. Objected to. On appeal
- 51. Objected to. On appeal
- 52. Objected to. On appeal
- 53. Objected to. On appeal
- 54. Objected to. On appeal
- 55. Rejected. On appeal
- 56. Rejected. On appeal
- 57. Rejected. On appeal
- 58. Objected to. On appeal

Status of Amendments

Final Office Action mailed: January 07, 2005
Amendment after Final filed February 17, 2005.

Summary of the Invention

A method and apparatus for brush chipper control including monitoring various aspects of the brush chipper operation (page 20 § “Predictability” ¶ 1, Figs. 19–22) at fixed time intervals. The data collected at a former time are compared with the data at the present time (Fig. 20 block 264), and the operation of the chipper adjusted accordingly (Figs. 20, 22). If the comparison of the former data with the present data indicates an overloaded chipper, the feed rollers are stopped and reversed (page 21 § “Feed Roller Stop and Reverse” ¶ 1, Figs. 21–22) for a short, predetermined amount of time.

The monitored variables include engine speed (page 20 § “Predictability” ¶ 1, Figs. 19–22), angular speed of the cutters, pressure of a feed roller hydraulic system (page 22 § “Overcoming Jamming” ¶ 1, Figs. 23–24), and speed of the feed rollers (page 22 § “Overcoming Jamming” ¶ 2).

When monitoring the engine speed, a deceleration may be calculated based upon the data obtained at previous time steps and the present time (Fig. 20). The deceleration may be used, then, to extrapolate the speed data to determine if the engine is expected to drop below a threshold speed before the next time step (page 20 § “Predictability” ¶ 1, Figs. 19–20).

The brush chipper controller will reduce the speed of the chipper engine to conserve fuel when the chipper has remained unused for a predetermined time (page 24 § “Idle Down” ¶ 1, Fig. 27).

Issues

Whether claims 45, 47, 49, and 58 are patentable under 35 U.S.C. 102(b) over

Gerner (U.S. 5,230,475).

Whether claims 55–57 are patentable under 35 U.S.C. 103(a) over Gerner.

Grouping of Claims

Claim 45: Independently patentable. Teaches novel monitoring of the chipper at first and second times, comparing the data from the two times, and modifying the performance of the chipper based on this comparison. This is undisclosed in the prior art.

Claim 46: Independently patentable. Teaches novel monitoring an engine speed of the chipper at first and second times, comparing the data from the two times, and modifying the performance of the chipper based on this comparison.

Claim 47: Independently patentable. Teaches novel monitoring a cutter speed in combination with the chipper engine speed at first and second times, comparing the data from the two times, and modifying the performance of the chipper based on this comparison.

Claim 48: Independently patentable. Teaches novel monitoring a cutter speed of the chipper at first and second times, comparing the data from the two times, and modifying the performance of the chipper based on this comparison.

Claim 49: Independently patentable. Teaches novel monitoring a hydraulic system pressure of the chipper at first and second times, comparing the data from the two times, and modifying the performance of the chipper based on this comparison.

Claim 50: Independently patentable. Teaches novel monitoring a speed of the feed rollers of the chipper at first and second times, comparing the data from the two

times, and modifying the performance of the chipper based on this comparison.

Claim 51: Group with claim 45.

Claim 52: Group with claim 45.

Claim 53: Independently patentable. Teaches novel use of “a time sequence of the distance between feed rollers” to determine when to idle down the chipper engine.

Claim 54: Independently patentable. Teaches novel “monitoring a distance between the feed rollers with the engine in low idle wherein when the distance between the feed rollers increases” and “controlling the hydraulic control for rotating the feed rollers to stop the rotation of the feed rollers for a predetermined time period, while the engine speed is increased to full speed, and using the hydraulic control for rotating the feed rollers to re-start rotation of the feed rollers.”

Claim 55: Independently patentable. Teaches novel monitoring an engine speed of the chipper at first and second times, calculating a deceleration based on the data from the two times, and modifying the performance of the chipper based on this deceleration.

Claim 56: Group with claim 45.

Claim 57: Group with claim 56.

Claim 58: Independently patentable. Teaches novel “calculating a rate of deceleration based on the monitored time sequence of events; and modifying performance of one of the engine, cutters, or feed rollers in response to said monitoring and calculating.”

Argument

Claims 45, 47, 49, and 58 were rejected under 35 U.S.C. 102(b) as being anticipated by Gerner (U.S. Patent 5,230,475). This rejection is respectfully traversed.

- In the *Response to Arguments* section in the Final Office Action, we read, “By continuously monitoring the chipper speed, Gerner inherently monitors the chipper at various times. This meets the claimed subject matter of the rejected claims.” However, what is claimed in claim 45 is:
 - ◊ monitoring a condition of the brush chipper at a first time;
 - ◊ monitoring the condition of the brush chipper at a second time, said second time being later than said first time;
 - ◊ *comparing* the condition of the brush chipper at the second time to the condition of the brush chipper at the first time; and
 - ◊ modifying performance of one of the engine, cutters, or feed rollers in response to said comparison.

Gerner *does not* disclose a method including **comparing** information from the brush chipper at different times. Instead, Gerner discloses: “...if the rotational speed of shaft 26 drops below the predetermined set speed (preferably about 1200-1300 revolutions per minute), speed sensor 119 will signal the control circuit to move main shuttle valve 92 to its second position which blocks hydraulic fluid flow through the valve (see FIG. 5)...In this event, at least one of the conveyors and preferably both conveyors are stopped.” (Col. 7 lines 32–41.) Hence, Gerner cannot possibly modify the “performance of one of the engine, cutters, or feed rollers in response to said comparison.” Therefore, because each claim limitation was not anticipated by Gerner, a *prima facie* case of anticipation

has not been presented. The burden of providing a prima facie case remains with the patent office.

Regarding claim 47, Gerner does not disclose utilizing “the monitored speeds of the cutters at the first *and* second times” (emphasis added) as an indication that “a maximum load condition will occur, because the engine speed has dropped or will drop below a predetermined speed.” Further, Gerner does not use that indication based on speeds from the first and second times to stop the feed rollers. Therefore, Gerner does not anticipate every limitation of claim 47, making claim 47 allowable over Gerner.

Regarding claim 49, Gerner does not disclose “monitoring the condition of the hydraulic switch for sensing a predetermined high pressure in the hydraulic control at the first and second times;” and “if the *comparison* indicates the hydraulic switch senses said predetermined high pressure for a predetermined time duration, momentarily reversing the feed rollers for a predetermined period of time” (emphasis added).

Instead, Gerner discloses, “The relief valves 114, 116 will release the hydraulic pressure if such pressure builds beyond a designated level between main shuttle valve 92 and the hydraulic motors 62, 64.” (Col. 5 lines 30–34.) Releasing the hydraulic pressure will not reverse the feed rollers. Again, no prima facie case for anticipation has been made. The burden remains on the patent office to provide such a prima facie case.

Regarding claim 58, Gerner does not disclose, “calculating a rate of deceleration based on the monitored time sequence of events.” Gerner does not suggest determining an acceleration or deceleration in his disclosure, nor does Gerner disclose “modifying performance of one of the engine, cutters, or feed rollers in response to said monitoring and calculating.”

In summary, in none of claims 45, 47, 49, and 58 has a prima facie case been presented for anticipation, in each case at least one claim limitation has been shown to be undisclosed in the disclosure of the prior art.

Claims 55–57 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gerner. This rejection is respectfully traversed.

The first Office Action states: “The limitations of these claims would have been design choices only once the basic process was known. For example, making several needed adjustments would have been obvious once it was known to make a single adjustment.”

Regarding claim 55 which recites calculation of a deceleration rate, Gerner provides no teaching on calculating any value based on any monitored information. Further, no mention is made of deceleration or acceleration. Gerner does not suggest any structure with which to use such a calculation. It is therefore not obvious from Gerner to calculate the rate of deceleration of the rotation of the engine for the purpose of modifying the performance thereof. Therefore, no prima facie case has been made for obviousness for claim 55.

Further, claims 55–57 depend on claim 45. Because claim 45 is clearly allowable, these dependent claims are also presumed allowable.

Accordingly, because all remaining claims 45–58 are believed to be clearly allowable, a notice to that effect is earnestly solicited.

Appendix of All Claims

Claims 1–44 (cancelled)

45. A method of controlling a brush chipper of a type having an engine, cutters, feed rollers, a hydraulic control for rotating said feed rollers, a feed table for supporting material to be chipped and a controller, said method comprising:

monitoring a condition of the brush chipper at a first time;
monitoring the condition of the brush chipper at a second time, said second time being later than said first time;
comparing the condition of the brush chipper at the second time to the condition of the brush chipper at the first time; and
modifying performance of one of the engine, cutters, or feed rollers in response to said comparison.

46. The method of claim 45 wherein the condition of the brush chipper comprises an engine speed, said method comprising:

operating the feed rollers and cutters to cut brush while monitoring the engine speed;
using the engine speeds at the first and second times to calculate the engine deceleration for a time period to determine a calculated deceleration;
using the calculated deceleration to predict the engine speed in a first future time period and if the predicted engine speed is below a droop threshold to stop the feed rollers for a second time period and monitor the engine speed to calculate the engine acceleration to determine a calculated acceleration;

using the calculated acceleration to predict the engine speed in a second future time period and (a) if the predicted engine speed is again below the droop threshold, reverse the feed rollers, and (b) if the predicted speed is above the droop threshold operate the feed rollers in a forward directions.

47. The method of claim **45** wherein the condition of the brush chipper comprises a speed of the cutters, said method comprising:

operating the feed rollers and cutters to cut brush;
monitoring the speed of the cutters to determine a maximum load condition;
when the monitored speeds of the cutters at the first and second times indicates a maximum load condition will occur, because the engine speed has dropped or will drop below a predetermined speed, stopping the feed rollers;
continuing to monitor the speed of the cutters and reversing the feed rollers for a predetermined period of time;
if the engine speed continues to drop, reversing the feed rollers for a second predetermined period of time; and
if the engine speed is above a recovery point, starting the feed rollers in a forward direction.

48. The method of claim **45** wherein the condition of the brush chipper comprises a speed of the cutters, said method comprising:

operating the feed rollers and cutters to cut brush;

monitoring the speed of the cutters at the first and second times to determine a maximum load condition;
when the monitored speed of the cutters indicates a maximum load condition will occur, stopping the feed rollers;
reversing the feed rollers for a predetermined period of time; and
operating the feed rollers in a forward direction to deliver brush to the cutters.

49. The method of claim **45** wherein the condition of the brush chipper comprises a condition of a hydraulic switch, said method comprising;
operating the feed rollers and cutters to cut brush;
monitoring the condition of the hydraulic switch for sensing a predetermined high pressure in the hydraulic control at the first and second times;
if the comparison indicates the hydraulic switch senses said predetermined high pressure for a predetermined time duration, momentarily reversing the feed rollers for a predetermined period of time; and
resuming operation of the feed rollers to cut brush.

50. The method of claim **45** wherein the condition of the brush chipper comprises a speed of the feed rollers, said method comprising:
operating the feed rollers and cutters to cut brush while monitoring the speed of said feed rollers at the first and second times;
identifying a feeding problem by comparing the speeds of said feed rollers at the first and second times;

momentarily reversing the feed rollers for a predetermined period of time; and
resuming operation of the feed rollers to cut brush.

51. The method of claim **45** comprising:

sensing how long the brush chipper has not been used for chipping while set in a
normal operating condition;
if the brush chipper has remained unused for a predetermined period of time,
reducing the engine speed to idle while allowing the feed rollers to rotate;
when said feed rollers move apart, stopping the feed rollers until said engine
returns to a predetermined speed; and
after said engine returns to said predetermined speed, starting the feed rollers to
allow brush to be pulled into the cutters by the feed rollers.

52. The method of claim **45** comprising:

sensing how long the brush chipper has not been used for chipping while set in a
normal operating condition;
if the brush chipper has remained unused for a predetermined period of time,
reducing the engine speed to idle while allowing the feed rollers to rotate;
if the engine speed slows below idle speed due to brush being cut again, stopping
the feed rollers until said engine returns to a predetermined speed; and
after said engine returns to said predetermined speed, starting the feed rollers to
allow brush to be pulled into the cutters by the feed rollers.

53. The method of claim **45** wherein:

operating the brush chipper at full engine speed with the feed rollers rotating;
monitoring the time sequence of events related to the utilization of the brush chipper to determine inactive use wherein said sequence of events being monitored comprising at least one of:

a time sequence of the distance between feed rollers;

a time sequence of the pressure in feed roller hydraulic circuit; and

a time sequence of engine loading; and subsequently modifying the engine to an operating state of slower speed in response to monitoring the time sequence of events.

54. The method of claim **45** wherein subsequent said monitoring further includes monitoring a distance between the feed rollers with the engine in low idle wherein when the distance between the feed rollers increases, indicating that material is being fed; and controlling the hydraulic control for rotating the feed rollers to stop the rotation of the feed rollers for a predetermined time period, while the engine speed is increased to full speed, and using the hydraulic control for rotating the feed rollers to re-start rotation of the feed rollers.

55. The method of claim **45** wherein the condition of the brush cutter monitored comprises a speed of rotation of the engine and comparing the condition of the brush chipper at the second time to the condition of the brush chipper at the first time comprises

calculating a rate of deceleration and the modifying of the performance comprises stopping or reversing the feed rollers.

56. The method of claim **45** comprising:

operating the feed rollers and cutters to cut brush;
monitoring the time sequence of an operating parameter during a first time period;
making a first adjustment to the operating of the feed rollers in response to a predetermined characteristic of the time sequence of the operating parameter in the first time period;
monitoring the time sequence of an operating parameter during a second time period during which the first adjustment should affect the operating parameter;
and
making a second adjustment to the operating of the feed rollers, different than the first adjustment, in response to a predetermined characteristic of the time sequence of the operating parameter in the second time period.

57. The method of claim **56** wherein:

the operating parameter monitored in the first time period comprises the speed of the cutters;
the first adjustment of the feed rollers comprises stopping the feed rollers and the predetermined characteristic comprises the speed of the cutters dropping below a predetermined speed;

the operating parameter monitored in the second time period comprises the speed of the cutters;

the second adjustment to the operation of the feed rollers comprises either operating the feed rollers in reverse when the predetermined characteristic of the speed of the cutters indicates the speed will stay below the predetermined speed or is continuing to drop or operating the feed rollers in forward when the predetermined characteristic of the speed of the cutters indicates the speed will be above the predetermined speed.

58. A method of controlling a brush chipper of a type having an engine, cutters, feed rollers, a hydraulic control for rotating said feed rollers, a feed table for supporting material to be chipped and a controller, said method comprising:

monitoring a time sequence of events related to the utilization of the brush chipper;

calculating a rate of deceleration based on the monitored time sequence of events;
and

modifying performance of one of the engine, cutters, or feed rollers in response to said monitoring and calculating.

Respectfully submitted,

JAMES L. O'HALLORAN

April 22, 2005
Date

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